



County of San Luis Obispo • Public Health Department

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PUBLIC HEALTH ALERT

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CASES OF WOUND BOTULISM IN INJECTION DRUG USERS

Since 1994, California has experienced an epidemic of wound botulism among injecting drug users (IDUs). Over the past 5 years, 20-24 cases of laboratory-confirmed wound botulism among IDUs have been reported on a yearly basis in California. From January 1, 2006 to date, California has already logged 22 laboratory-confirmed cases, and has released antitoxin for another 14 IDU patients whose laboratory tests are pending. We do not know the reason for this year's increase, but the primary cause of wound botulism among IDUs has been skin-popping contaminated black tar heroin.

Actions Requested of all Clinicians:

1. **Be alert** for cases of wound botulism especially in injection drug users.
2. **Report** suspect cases to the **Communicable Disease Program Manager** at (805) 781-5500 or after hours, weekends and holidays at (805) 781-4800. Ask to have the Health Officer paged.
3. Consider neurology and infectious disease consultation.
4. Conduct a thorough search for a wound, and consider surgical consultation.
5. Obtain **serum for toxin assays** (in serum separator tubes).
6. **Warn** patients who inject drugs about wound botulism and **inform** them of symptoms, the need to seek medical care promptly and prevention methods (see below).
7. Because of a higher risk of tetanus in injection drug users, provide tetanus vaccine every 5 years.

Description of wound botulism:

Wound botulism is caused by an infection with *Clostridium botulinum*, toxin-producing bacteria. Since 1988, it has been predominantly associated with subcutaneous or intramuscular black tar heroin use. Wound botulism usually begins with bilateral cranial nerve signs and symptoms including blurred vision, diplopia, ptosis, dysphagia, dysarthria, impaired gag reflex and facial weakness. It then proceeds to generalized weakness and dyspnea. On close inspection, an abscess containing the bacteria may be found at a site of injection.

Treatment:

Supportive care is the mainstay of treatment. Wounds should receive debridement. Antitoxin therapy should be provided as early as possible to reduce the incidence of respiratory failure; ideally administer antitoxin within 12 hours of presentation and prior to wound debridement. Antibiotics are recommended (e.g. penicillin or metronidazole) although aminoglycosides and tetracyclines are generally contraindicated.

Instructions for drug users: (A flyer for patients is appended and posted on the San Luis Obispo County Public Health Department web site (www.slocounty.ca.gov)).

- A. Stop or reduce injecting.
- B. Do not use black tar heroin. It isn't possible to prevent wound botulism by cooking or cleaning the dope.
- C. If they must continue injecting: Use new sterile syringes with each injection or clean syringes with bleach.
- D. Before injecting: Thoroughly clean the injection site with soap and hot water or with alcohol swabs.
- E. Do not share needles, syringes, cookers, cottons, mixing or rinse water with anyone else.
- F. If they experience symptoms of wound botulism: GO IMMEDIATELY TO THE NEAREST EMERGENCY ROOM.

Checklist: Diagnosis and Management of Wound Botulism

Diagnosis

- ☐ Establish the presence of signs and symptoms consistent with the descending paralysis of botulism. *Did the symptoms begin with cranial nerve palsies (ptosis, diplopia, dysarthria) and progress distally?*
- ☐ If the diagnosis is in doubt, consider an infectious diseases consult, a neurology consult, and/or EMG testing, which should show augmentation of muscle action potential at 20-50 Hz.
- ☐ Determine if the patient has risk factors for wound botulism. *Is the patient an injecting drug user, especially a person who skin-pops black tar heroin?*
- ☐ Look for infected wound(s). Some patients with wound botulism may not have an obvious site of infection.

Obtaining antitoxin

- ☐ Call the San Luis Obispo County Public Health Department, Communicable Disease Program Manager, Monday through Friday from 8 a.m. to 5 p.m. at (805) 781-5500, or after hours, weekends, and holidays at (805) 781-4800 and ask to have the Health Officer paged.
- ☐ Receive call from the California Department of Health Services (CDHS) Division of Communicable Disease Control Duty Officer (DCDC DOD) who will discuss the case and release of antitoxin. **(Note: The state's DCDC DOD should not be contacted directly from the hospital initially).**
- ☐ Alert the hospital pharmacy that antitoxin is being released from the quarantine station.
- ☐ Arrange for the transport of antitoxin (the admitting hospital is responsible for transport).

Required pre-antitoxin administration laboratory testing

- ☐ Draw 30 cc's of whole blood into red tubes (three large tubes).
- ☐ Label each tube with the patient's name, "pre-antitoxin serum," and the date and time of collection.
- ☐ Bundle the tubes.
- ☐ Indicate if the patient is taking any of the following interfering medications: neostigmine bromide, neostigmine methyl sulfate, pyridostigmine bromide, mestinon/timespan (used in tensilon test), ambenonim chloride.
- ☐ Send the tubes to the hospital laboratory with instructions to refrigerate and send to the San Luis Obispo County Public Health Department Laboratory. Notify the Public Health Lab at (805) 781-5507, after hours at (805) 784-6493.

Antitoxin administration

- ☐ Test the patient for sensitivity to antitoxin and administer antitoxin according to the instructions in the antitoxin packet.

Wound debridement

- ☐ Debride the patient's wound(s) if any. (CDHS recommends hanging antitoxin prior to wound debridement).

Other considerations

- ☐ Consider high-dose antibiotics effective against anaerobes.
- ☐ Consider vaccination against tetanus if not up to date.

Post antitoxin laboratory testing

- ☐ 12-24 hours after the administration of antitoxin, draw 20 cc's of whole blood into red top tubes.
- ☐ Label each tube with the patient's name, "post-antitoxin serum," and the date and time of collection.
- ☐ Bundle the tubes
- ☐ Send the tubes to the hospital laboratory with instructions to refrigerate and ship to the San Luis Obispo County Public Health Department Laboratory. Notify the Public Health Lab at (805) 781-5507, after hours at (805) 784-6493.

West Nile Virus Case History Form - UPDATED 2006

Patient Information:

Last Name: _____ **First Name:** _____ **DOB:** ____/____/____ **Medical Rec #:** _____

Address: _____ **City:** _____ **Zip Code:** _____

Phone: Home (____) _____ Work (____) _____ **Occupation:** _____

Sex: ☐ Male **Ethnicity:** ☐ Hispanic **Race:** ☐ White ☐ Asian/ Pacific Islander
☐ Female ☐ Non-Hispanic ☐ Black ☐ American Indian/Alaskan Native
☐ Unknown ☐ Unknown ☐ Unknown ☐ Other: _____

Physician Information (Mandatory):

Name: _____ **Facility:** _____

Pager/Phone: (____) _____ **Fax:** (____) _____ **Email:** _____

Date of first symptom(s): ____/____/____ ☐ Hospitalized or ☐ ER / Outpatient

If hospitalized, admit date: ____/____/____ **Discharge date:** ____/____/____ **If patient died, date of death:** ____/____/____

Clinical syndrome:

Encephalitis ☐ Yes ☐ No ☐ Unk
Aseptic meningitis ☐ Yes ☐ No ☐ Unk
Acute flaccid paralysis ☐ Yes ☐ No ☐ Unk
Febrile illness ☐ Yes ☐ No ☐ Unk
Asymptomatic ☐ Yes ☐ No ☐ Unk
Other _____

Do the following apply anytime during current illness:

In ICU ☐ Yes ☐ No ☐ Unk
Fever ≥38° ☐ Yes ☐ No ☐ Unk
Headache ☐ Yes ☐ No ☐ Unk
Rash ☐ Yes ☐ No ☐ Unk
Stiff neck ☐ Yes ☐ No ☐ Unk
Muscle pain/weakness ☐ Yes ☐ No ☐ Unk
Altered consciousness ☐ Yes ☐ No ☐ Unk
Seizures ☐ Yes ☐ No ☐ Unk

CSF Results

Date: ____/____/____
RBC: _____
WBC: _____
%Diff: _____
Protein: _____
Glucose: _____

CBC Results

Date: ____/____/____
WBC: _____
%Diff: _____
HCT: _____
Plt: _____

Other lab results (MRI/CT, LFTs, etc.): _____

Past medical history:

Hypertension: ☐ Yes ☐ No ☐ Unk
Diabetes Type _____ ☐ Yes ☐ No ☐ Unk
Other: _____

Exposures/Travel within 4 wks of onset (specify details):

Mosquito bites/exposure: ☐ Yes ☐ No ☐ Unk

Traveled outside of California: ☐ Yes ☐ No ☐ Unk

Traveled outside the U.S.: ☐ Yes ☐ No ☐ Unk

Ever traveled outside the U.S.: ☐ Yes ☐ No ☐ Unk

Other pertinent information (specify details):

Immunocompromised patient: ☐ Yes ☐ No ☐ Unk

Yellow fever vaccination: ☐ Yes ☐ No ☐ Unk
Date: ____/____/____

Donated blood: ☐ Yes ☐ No ☐ Unk
Date: ____/____/____

Donated organ: ☐ Yes ☐ No ☐ Unk
Date: ____/____/____

Received blood: ☐ Yes ☐ No ☐ Unk
Date: ____/____/____

Received organ: ☐ Yes ☐ No ☐ Unk
Date: ____/____/____

Current pregnancy: ☐ Yes ☐ No ☐ Unk
Week of gestation: _____

If infant, breast fed? ☐ Yes ☐ No ☐ Unk

Knowledge of WNV prior to illness:

Did patient do anything to avoid mosquito bites? ☐ Yes ☐ No ☐ Unk

If yes,
- used insect repellent? ☐ Yes ☐ No ☐ Unk
- drained standing water near home? ☐ Yes ☐ No ☐ Unk

Other significant history (social, family, etc.):

For questions regarding testing, call (805) 781-5506 Communicable Disease Control
Fax this form to **(805) 781-5543**

Diagnostic Testing Guidelines for West Nile Virus - Updated 2006

**** IMPORTANT: THE INFORMATION BELOW MUST BE COMPLETED
AND SUBMITTED WITH SPECIMENS ****

West Nile virus testing is recommended on individuals with the following:

- A. Encephalitis**
- B. Aseptic meningitis (Note: Consider enterovirus for individuals \leq 18 years of age)**
- C. Acute flaccid paralysis; atypical Guillain-Barré Syndrome; transverse myelitis; or**
- D. Febrile illness compatible with West Nile fever* and lasting \geq 7 days (must be seen by health care provider):**

* The West Nile fever syndrome can be variable and often includes headache and fever ($T \geq 38^\circ\text{C}$). Other symptoms include rash, swollen lymph nodes, eye pain, nausea or vomiting. After initial symptoms, the patient may experience several days of fatigue and lethargy.

1. Required specimens:

- ☐ **Acute Serum:** \geq 2cc serum collected
- ☐ **Cerebral Spinal Fluid (CSF):** 1-2cc CSF if lumbar puncture is performed

2. If West Nile virus is highly suspected and acute serum is negative or inconclusive:

- ☐ **2nd Serum:** \geq 2 cc serum collected 3-5 days after acute serum

- ☐ Refrigerated specimens should be sent on **cold pack** using an overnight courier
- ☐ If CSF is frozen, send on dry ice (all specimens may be sent on dry ice)
- ☐ Each specimen should be labeled with **date of collection**, **specimen type**, and **patient name**
- ☐ Please do not send specimens on Fridays (Specimen Receiving Hours: M-Th 8-5)
- ☐ Send specimens to Local Public Health Laboratory:

**2191 Johnson Ave.
San Luis Obispo, CA 93401**

- ☐ Local Public Health Laboratory West Nile **IFA/EIA IgM results** (or attach copy of results):

Specimen	Date Collected	IgM Assay Method	Results			
			Negative	Reactive	Indeterminate	Not Tested
		<input type="checkbox"/> IFA <input type="checkbox"/> EIA				
		<input type="checkbox"/> IFA <input type="checkbox"/> EIA				

Patient's last name, first name:			Patient Information		
Age or DOB: _____ Sex (circle): M F Onset Date: _____			Address _____ City _____ Zip _____ County _____ Phone Number (____) _____		
Clinical findings: <input type="checkbox"/> Encephalitis <input type="checkbox"/> Meningitis <input type="checkbox"/> Acute flaccid paralysis <input type="checkbox"/> Febrile illness <input type="checkbox"/> Other: _____			Other information (immunocompromised, travel hx, hx of flavivirus infection, etc):		
Other tests requested:			This section for Laboratory use only.		
1 st	Specimen type and/or specimen source	Date Collected	1 st		
2 nd	Specimen type and/or specimen source	Date Collected	2 nd		
3 rd	Specimen type and/or specimen source	Date Collected	3 rd		

For questions regarding specimens, please call 781-5507.

Submitting Facility _____ Phone Number (____) _____